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Report to the Federal Communications Commission on Carrier Efforts Toward Attaining Digital TTY Accessibility, and the Status of the Various Technological Solutions, as Provided by CC Docket No. 94-102, In the Matter of Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems

Carolina PCS I Limited Partnership ("Carolina PCS"), by its attorneys, pursuant to the Federal Communications Commission's ("Commission") *Fourth Report and Order* in CC Docket No. 94-102,¹ hereby files a Quarterly Report for the quarter ending September 30, 2001, detailing its efforts towards attaining digital TTY accessibility, and the status of the various technological solutions that will help it attain that goal.

In the *Fourth Report and Order* the Commission established December 31, 2001 as the new deadline for carriers operating digital wireless systems to have obtained all software upgrades and equipment necessary to make their systems capable of transmitting 911 calls from TTY devices. It further established June 30, 2002 as the deadline for carriers to integrate, test and deploy the technology in their systems in conjunction with the public safety community. In order to be assured that the aforementioned deadlines will be met without complication, the Commission required digital wireless carriers to submit Quarterly Reports fifteen days after the end of each quarter.² Carolina PCS now files this instant report with the Commission.

I. Carrier Background

Carolina PCS provides digital CMRS wireless service in the Sumter, SC; Florence, SC; Greenville, SC; Columbia, SC; Greenwood, SC; Myrtle Beach, SC; Charleston, SC; Anderson, SC; and Orangeburg, SC BTAs.³ Carolina PCS intends to do everything within its power to comply with the requirements of 20.18(c) of the rules, to provide hearing-impaired persons with TTY access via the 911 dialing code over its digital wireless network. However, the ability for TTY devices to actually transmit calls over the Carolina PCS's GSM digital network is wholly dependent upon the availability of the required infrastructure hardware and software and compatible handsets in sufficient time to meet the Commission's deadline. Carolina PCS respectfully submits that these items are both beyond Carolina PCS's control. Accordingly,

¹In the Matter of Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, *Fourth Report and Order*, CC Docket No. 94-102, 15 FCC Rcd 25216, 65 Fed. Reg. 82293 (December 28, 2000), (*"Fourth Report and Order"*).

²*Id.*

³Stations KNLF447 (BTA436C), KNLF448 (BTA147C), KNLF449 (BTA177C), KNLF450 (BTA091C), KNLF451 (BTA178C), KNLF452 (BTA312C), KNLF453 (BTA072C), KNLF454 (BTA016C), and KNLF455 (BTA355C).

Carolina PCS has requested information and a status update from its network infrastructure and primary handset provider regarding their ability to meet the Commission's deadlines.

II. Access to E911 Through TTY Devices

A. Development Activities

Carolina PCS is presently the only United States GSM operator utilizing a Lucent Technologies ("Lucent") switching platform. This platform is based upon the international version of the Lucent 5ESS switch which Carolina PCS understands utilizes a separate and distinct software system from the Lucent domestic 5ESS switches which runs all of the other Lucent-based cellular and PCS networks in the United States. Since the TTY issue on the current deadline is an issue unique to the United States market, Carolina PCS's switch is presently the only one in the world of its kind that will need this functionality. Accordingly, Carolina PCS is unsure as to the status and priority of implementation that has been assigned to this functionality for this single switch. Carolina PCS has made inquiries to Lucent regarding the status on its progress in achieving full compliance with the Commission's rules for the Carolina PCS infrastructure. In response to Carolina PCS's inquiry, Lucent has provided a status update on its progress in achieving full compliance with the Commission's rules with respect to TDMA and CDMA technologies.

Lucent has advised Carolina PCS that it is the sole supplier of requisite infrastructure on Lucent equipment. While Lucent had previously advised Carolina PCS that Lucent's network infrastructure software development and handset development was underway, despite formal request, Lucent has not provided any update regarding the status of its GSM development or confirmation of its previously-advised deadline. Accordingly, as of this point in time, Carolina PCS cannot confirm Lucent's plans or schedule for providing the requisite network upgrades to enable Carolina PCS to comply with this mandate. A copy of Lucent's response to Carolina PCS' request from last quarter is appended hereto as **Exhibit A**. Carolina PCS is not independently capable of verifying that the information presented therein remains current.

Finally, Carolina PCS provides service to a number of brands of certified handsets owned by its subscribers and roamers entering its market, including Nokia and Motorola. Carolina PCS has requested that these manufacturers provide information on their progress in achieving full compliance with the Commission's rules with their GSM handsets. Motorola's response is appended hereto as **Exhibit B**. Carolina PCS is not independently capable of verifying the information presented therein, but has no reason to believe it is not accurate. Carolina PCS has not yet received a response from Nokia, and therefore, cannot report on its development activities. In the past, however, Nokia provided this information directly to the Commission in its own quarterly reports. Carolina PCS presumes that Nokia will follow the same procedure for this quarter.

The appended Lucent and Motorola information is respectfully submitted in response to these issues, as required in the Commission's *Fourth Report and Order* (rel. Dec 14, 2000).

- (1) *Network Infrastructure Software Development*
- (2) *Handset Development and Testing Plans*
- (3) *Beta Testing and Lab Testing*
- (4) *Release and General Availability to Carriers of Network Infrastructure Software*

- (5) *Availability to Carriers of Full Acceptance Test Units*
- (6) *Efforts Toward Achieving Digital Wireless Solution Compatibility With Enhanced TTY Devices*

B. Testing and Deployment Activities

Once the Lucent system has been upgraded to provide the requisite functionality and assuming the availability of compatible handsets, Carolina PCS will perform the appropriate tests. The specific details of a time line to implement 911 access to TRS via TTY devices over the digital wireless network, and other issues related to such implementation, including handset development and testing, are beyond the scope of information which Carolina PCS can provide. Such questions are more appropriately addressed by equipment vendors because the equipment vendors, and not the licensees, are directly involved in developing compliant equipment.

Because of the lack of available infrastructure hardware and software and compatible handsets, Carolina PCS has yet to undertake any testing and development activities. The Lucent and Motorola responses address these issues, as set forth in the Commission's *Fourth Report and Order*.

- (7) *Carrier Coordination of Testing With PSAP*
- (8) *Carrier Testing Activities, Including Field Testing, Consumer End-to-end Testing, and Other Necessary Tests*
- (9) *Retail Availability of Necessary Consumer Equipment*
- (10) *Geographic Scope of Network Infrastructure Deployment*

III. Conclusion

As soon as the issues surrounding TTY access over digital networks are resolved, and assuming they are completed in a timely manner, Carolina PCS intends to promptly and fully comply with the requirements of the *Fourth Report and Order*, to test and deploy the technology in its system in conjunction with the public safety community by June 30, 2002. As required, Carolina PCS will provide the Commission with quarterly updates on the status of development and deployment, as advised by Carolina PCS' infrastructure, handset and switching service vendors and, if necessary, will seek a waiver of the applicable deadlines if the requisite

equipment and software does not actually become available in sufficient time to enable Carolina PCS to meet the deadlines.

Respectfully Submitted,

Carolina PCS I Limited Partnership

October 15, 2001

/s/ Michael K. Kurtis

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It's Attorneys

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EXHIBIT A

**RESPONSE TO CAROLINA PCS FROM LUCENT TECHNOLOGIES
MAY 30, 2001**

1. Projected timetable of availability of requisite infrastructure HW & SW:
Available 31Oct, 2001
2. Formal quote for the upgrade:
Formal quote will be provided in August 2001
3. Names of alternate system suppliers:
Lucent is the sole supplier of this feature on Lucent equipment

Update on the solution with information on the following deployment milestones and issues:

1. Network infrastructure software development NR 10.02 31Oct 2001
2. Handset development & esting plans 3rd party handset development is underway.
3. Beta testing & lab testing June 2001
4. Release and GA to carriers of network software NR 10.02, 31Oct2001
5. Availability of full-acceptance test units 31Oct 2001
6. Efforts toward achieving digital wireless solution compatibility with enhanced TTY devices:
Current solution is a digital wireless solution. Therefore Lucent already complies.

EXHIBIT B

MOTOROLA TTY COMPATIBILITY DEVELOPMENT STATUS REPORT 3rd Quarter 2001

Product	Standard	Status	Milestones	Progress
CDMA Handset	IS 127-3 IS 733-2	Integration & System Test	IOT: June 2001 UI: October 2001 ROM: December 2001 SA: 1Q 2002	Planning to participate in November ATIS testing with Sprint.
GSM Handset	TS 26.226 TS 26.230 TR 26.231	Integration & System Test	UI: October 2001 IOT: October 2001 ROM: December 2001 SA: 1Q 2002	Mobile to Mobile calls are functional. Optimization activities are on-going. IOT will start in October.
iDEN Handset		Beta in customer's lab	On plan	
TDMA Handset	IS 823-A IS 840-A	Integration & System Test	IOT: September 2001 UI: September 2001 ROM: October 2001 SA: 1Q 2002	Tested at AWS in Naperville, IL using Lucent Infrastructure. Tested both AMPS and TDMA.
CDMA Infrastructure	IS 127-3 IS 733-2	Ready for FOA	Field Testing: Nov 13-15, 2001	Infrastructure software in field has digital TTY support available now. Only handsets are needed to commence FOA.
iDEN Infrastructure		Beta in customer's lab	On plan	

Note: Motorola works with its carrier customers to provide them specific information related to their respective products.

Note: IOT is Inter Op Testing with RAM based parts for Character Error Rate testing
UI is User Interface testing with HCO / VCO support
ROM is the availability of ROM based phones. These should be functionally identical to a RAM phone.
SA is Ship Acceptance of production volume quantities

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CERTIFICATE OF SERVICE

I, Carol A. Mindzak, a secretary with the law firm of Kurtis & Associates, P.C., do hereby certify that I have this 15th day of October 2001, filed the foregoing "REPORT TO THE FEDERAL COMMUNICATIONS COMMISSION ON CARRIER EFFORTS TOWARD ATTAINING DIGITAL TTY ACCESSIBILITY, AND THE STATUS OF THE VARIOUS TECHNOLOGICAL SOLUTIONS, AS PROVIDED BY CC DOCKET NO. 94-102, IN THE MATTER OF REVISION OF THE COMMISSION'S RULES TO ENSURE COMPATIBILITY WITH ENHANCED 911 EMERGENCY CALLING SYSTEMS" electronically with the Federal Communications Commission's Electronic Comment Filing System. I have also filed a diskette copy of this report with the Federal Communications Commission's copy contractor, Qualex International. In addition, on this date, I have served copies of this Report via hand delivery or e-mail to the following:

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